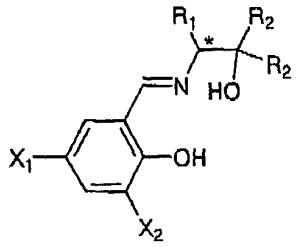
What is claimed is:

1. An optically active salicylideneaminoalcohol compound of formula (1):



(1)

wherein R_1 represents

an alkyl group which may be substituted with a group selected from an alkoxy group, an aralkyloxy group, an aryloxy group and cycloalkoxy group,

an aralkyl, aryl or cycloalkyl group all of which may be substituted with a group selected from an alkyl group, an alkoxy group, an aralkyloxy group, an aryloxy roup and a cycloalkoxy group,

R_2 represents

an alkyl group, a cycloalkyl group, or

an aralkyl or phenyl group which may be substituted with a group selected from an alkyl group, an alkoxy group, an aralkyloxy group, an aryloxy group and a cycloalkoxy group,

when X_1 represents a nitro group, X_2 is a hydrogen atom,

when X_1 represents a chlorine atom, X_2 is a chlorine atom, and

when X_1 is a hydrogen atom, X_2 is a fluorine atom; and

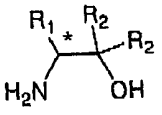
the carbon atom denoted by " * " is an asymmetric carbon atom having either an S or R configuration.

2. An optically active salicylideneaminoalcohol compound according to claim 1, wherein R_1 and R_2 are the same or different and independently represent an alkyl group, an aralkyl group, a phenyl group, a 2-methoxyphenyl group, a 2-tert-butoxy-5-tert-butylphenyl group or a 2-octyloxy-5-tert-butylphenyl group.

3. A process for producing an optically active salicylideneaminoalcohol compound as defined in claim 1, which comprises

reacting

an optically active amino alcohol of formula (2):



(2)

wherein R_1 represents

an alkyl group which may be substituted with a group selected from an alkoxy group, an aralkyloxy group, an aryloxy group and cycloalkoxy group,

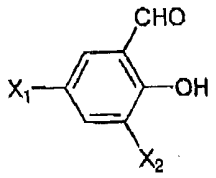
an aralkyl, aryl or cycloalkyl group all of which may be substituted with a group selected from an alkyl group, an alkoxy group, an aralkyloxy group, an aryloxy roup, and a cycloalkoxy group,

R_2 represents

a hydrogen atom, an alkyl group, a cycloalkyl group or

an aralkyl or phenyl group which may be substituted with a group selected from an alkyl group, an alkoxy group, an aralkyloxy group, an aryloxy roup and a cycloalkoxy group, and

the carbon atom denoted by " * " is an asymmetric carbon atom having either an S or R configuration, with a 2-hydroxybenzaldehyde derivative of formula (3):



(3)

wherein when X_1 represents a nitro, X_2 is a hydrogen atom,

when X_1 represents a chlorine atom, X_2 is a chlorine atom, and

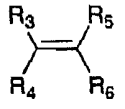
when X_1 is a hydrogen atom, X_2 is a fluorine atom.

4. A process according to claim 3, wherein R_1 and R_2 are the same or different and independently represent an alkyl group, an aralkyl group, a phenyl group, a 2-methoxyphenyl group, a 2-tert-butoxy-5-tert-butylphenyl group or a 2-octyloxy-5-tert-butylphenyl group.

5. A chiral copper complex obtained by contacting a mono-valent or

di-valent copper compound with an optically active salicylideneaminoalcohol compound as defined in claim 1 or 2.

6. An adduct comprising a chiral copper complex as defined in claim 5 and a prochiral olefin of formula (5):



(5)

wherein R_3, R_4, R_5 and R_6 independently represent

a hydrogen atom,

a halogen atom,

a (C1-C8)alkyl group which may be substituted with a halogen atom or a lower alkoxy group,

a (C4-C8)cycloalkyl group,

an aryl group which may be substituted with a halogen atom or a lower alkoxy group,

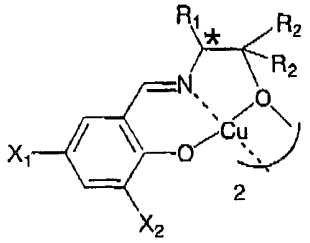
an alkoxy group,

R_3 and R_4, or R_5 and R_6 may be bonded at their terminals to form an alkylene group having 2-4 carbon atoms, and

one of R_3, R_4, R_5 and R_6 groups represents an alkenyl group which may be substituted with a halogen atom, an alkoxy group or an alkoxy carbonyl group, of which alkoxy may be substituted with a halogen atom or atoms,

provided that when R_3 and R_5 are the same, R_4 and R_6 are not the same.

7. A method for producing a chiral copper complex of formula (1)':



(1)'

wherein R_1 and R_2 are the same or different and independently represent an alkyl group, an aralkyl group, a phenyl group, a 2-methoxyphenyl group, a 2-tert-butoxy-5-tert-butylphenyl group, or a 2-octyloxy-5-tert-butylphenyl group,

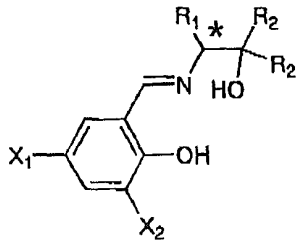
when X_1 represents a nitro group, X_2 is a hydrogen atom,

when X_1 represents a chlorine atom, X_2 is a chlorine atom, and

when X_1 represents a hydrogen atom, X_2 is a fluorine atom,

the carbon atom denoted by " * " is an asymmetric carbon atom having either an S or R configuration,

which comprises contacting a di-valent copper compound, in an inert organic solvent, with a chiral salicylideneaminoalcohol compound of formula (1):



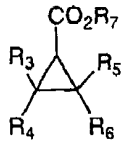
(1)

wherein R_1, R_2 X_1, X_2 and " * " respectively have the same meaning as defined above.

8. A method according to claim 7, which further comprises subjecting the resulting solution to precipitation and collecting the precipitated crystals of said chiral copper complex of formula (1)'.

9. A method according to claim 8, said precipitation is carried out by cooling the reaction solution or by adding an aliphatic hydrocarbon solvent.

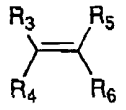
10. A method for producing an optically active cyclopropanecarboxylic acid ester of formula (4):



(4)

wherein R_3, R_4, R_5, R_6 and R_7 are as defined below,

which comprises reacting a prochiral olefin of formula (5):



(5),

wherein R_3, R_4, R_5 and R_6 are as defined below, with a diazoacetic acid ester of formula (6):

$$N_2CHCO_2R_7 \qquad (6),$$

wherein R_7 is as defined below, in the presence of a chiral copper complex as defined in claim 5,

wherein R_3, R_4, R_5 and R_6 independently represent

a hydrogen atom,

a halogen atom,

a (C1-C8)alkyl group which may be substituted with a halogen atom or a lower alkoxy group,

a (C4-C8)cycloalkyl group,

an aryl group which may be substituted with a halogen atom or a lower alkoxy group,

an alkoxy group,

R_3 and R_4, or R_5 and R_6 may be bonded at their terminals to form an alkylene group having 2-4 carbon atoms, and

one of R_3, R_4, R_5 and R_6 groups represents an alkenyl group which may be substituted with a halogen atom, an alkoxy group or an alkoxy carbonyl group, of which alkoxy may be substituted with a halogen atom or atoms,

provided that when R_3 and R_5 are the same, R_4 and R_6 are not the same, and

R_7 represents

an alkyl group having 1 to 8 carbon atoms,

a benzyl group which may be optionally substituted with a cycloalkyl group, a lower alkyl group, a lower alkoxy group, a phenoxy group or a halogen atom, or

a phenyl group which may be optionally substituted with a lower alkyl group, a lower alkoxy group or a phenoxy group.

11. A method according to claim 10, wherein
R_7 represents an alkyl group having 1 to 6 carbon atoms or
an optionally substituted phenyl group.

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